the electrodes 2 each of which the bump 3 is formed is
mounted on a circuit board 4. This anisotropic conductive
film sheet 10 contains an inorganic filler 6f of a mean
diameter smaller than the mean diameter of conductive
5   particles 10a in a solid resin that has an insulative
thermosetting property and constitutes the anisotropic
conductive film sheet 10. For example, as shown in Fig. 36,
assuming that the mean diameter of the conductive particles
10a is set to 0.5 μm smaller than the mean diameter of 1.0
10   μm of the conductive particles 10a of the conventional ACF,
then the mean diameter of the particles of the inorganic
filler 6f is set to about 3 to 5 μm. As the conductive
particles 10a contained in the anisotropic conductive film
sheet 10, nickel powder plated with gold is employed. With
15   this arrangement, a connection resistance between the
electrode 5 located on the board side and the bump 3
located on the IC chip side can be reduced, more
satisfactorily.

More preferably, by providing the conductive
20   particles 10a by conductive particles 10a whose conductive
particle bodies 10a-1 are outwardly coated with an
insulating layer 10a-2 and setting the amount of the
conductive particles 10a more than double that of the
generally employed anisotropic conductive film, the
25   conductive particles 10a are held by the bump 3 with a

certain probability. This enables the improvement in tolerance to a thermal impact due to swelling by absorbed moisture and the subsequent reflow.

If the conductive particles 10a thus coated with the insulation coating is placed between the bump 3 and the board electrode 5, then the very thin insulation coating portion 10a-2 located outside the conductive particles 10a is abraded away to expose the conductive particle bodies 10a-1, which take the effect of their abilities of conduction. Accordingly, the insulation coating portion 10a-1 is not abraded away in the portion that is not placed between the bump 3 and the electrode 5, and therefore, the abilities of conduction do not take effect. Accordingly, short circuit between the electrode 5 and the electrode 3 is hard to occur in the surface direction. Moreover, when a stud bump is employed, it is usually difficult to place the conductive particles 10a between the electrode 5 and the bump 3 since its top portion has a small area. Therefore, it is required to incorporate a large amount of conductive particles 10a. However, if doing so, the conductive particles sometimes come into contact with each other, possibly causing a short circuit between the electrodes 3 and 5. Therefore, it is preferable to employ insulating conductive particles coated with an insulation coating. Moreover, the reason why the reflow

characteristic and so on are improved is because, when the anisotropic conductive film forming adhesive (or anisotropic conductive film sheet) swells in a Z-direction (the direction of thickness of the anisotropic conductive film sheet) caused by the swelling due to the factors of temperature and humidity, the conductive particles 10a swell more than that, allowing the connection to be maintained. Therefore, it is preferable to employ Au-Ni coated plastic particles or the like having a repulsion power for the conductive particles 10a.

Next, as shown in Fig. 1D, an anisotropic conductive film sheet 10, which is cut into a size slightly larger than the size of the chip 1 and mixed with an inorganic filler 6f, is arranged on the electrodes 5 of the circuit board 4 of Fig. 1C, and the anisotropic conductive film sheet 10 is stuck to the board 4 with a pressure force of, for example, about 5 to 10 kgf/cm^2 by means of a sticking tool 7 heated to, for example, 80 to 120°C. Subsequently, by peeling off a separator 10g removably arranged on the sticking tool side of the anisotropic conductive film sheet 10, a preparation process of the board 4 is completed. This separator 10g is to prevent the anisotropic conductive film sheet 10 that contains a solid or semi-solid thermosetting resin mixed with the inorganic filler 6f from adhering to the sticking tool 7. In this